

# WIRELESS TELECOMMUNICATIONS BUREAU



## FACT SHEET

Federal Communications Commission  
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## COMMERCIAL RADIO OPERATOR LICENSES

This Fact Sheet contains information about commercial radio operator licenses issued by the Federal Communications Commission (FCC).

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### I. WHO NEEDS A COMMERCIAL OPERATOR LICENSE?

The answer depends on whether you wish to operate or repair and maintain radio stations. If you only intend to operate a radio station, read the "Radio Operations" paragraphs below. If you intend to operate, repair, and maintain radio stations, read the "Radio Maintenance and Repair" paragraphs below.

**L CAUTION:** These listings only describe when a commercial operator license is necessary. A commercial operator license does not constitute or imply FCC authorization to transmit radio signals. Before you operate any radio station, make certain that the station is licensed as required by the FCC. Citizens band and Radio Control radio stations do not require individual station licenses.

#### A Radio Operations

You need a commercial radio operator license to operate the following:

- ! Ship radio stations if:
  - ✓ the vessel carries more than six passengers for hire; or
  - ✓ the radio operates on medium or high frequencies; or
  - ✓ the ship sails to foreign ports; or
  - ✓ the ship is larger than 300 gross tons and is required to carry a radio station for safety purposes.
- ! Coast stations which operate on medium or high frequencies, or operate with more than 1,500 watts of peak envelope power.
- ! Aircraft radio stations, except those that use only VHF frequencies on domestic flights.
- ! International fixed public radiotelephone and radiotelegraph stations.
- ! Coast and ship stations transmitting radiotelegraphy.

You do **NOT** need a commercial radio operator license to operate the following:

- ! Coast stations operating on VHF frequencies with 250 watts or less of carrier power.
- ! Ship stations operating only on VHF frequencies while sailing on domestic voyages.
- ! Aircraft stations which operate only on VHF frequencies and do not make foreign flights.

#### Λ Radio Maintenance and Repair

You need a commercial radio operator license to repair and maintain the following:

- ! All ship radio and radar stations.
- ! All coast stations.
- ! All hand carried units used to communicate with ships and coast stations on marine frequencies.
- ! All aircraft stations and aeronautical ground stations (including hand-carried portable units) used to communicate with aircraft.
- ! International fixed public radiotelephone and radiotelegraph stations.

You do **NOT** need a commercial radio operator license to operate, repair, or maintain any of the following types of stations:

- ! Two-way land mobile radio equipment, such as that used by police and fire departments, taxicabs and truckers, businesses and industries, ambulances and rescue squads, local, state, and federal government agencies.
- ! Personal radio equipment used in the Citizens Band, Radio Control, and General Mobile radio services.
- ! Auxiliary broadcast stations, such as remote pickup stations.
- ! Domestic public fixed and mobile radio systems, such as mobile telephone systems, cellular systems, rural radio systems, point-to-point microwave systems, multipoint distribution systems,

etc.

- ! Stations that operate in the Cable Television Relay Service.
- ! Satellite stations, both uplink and downlink of all types.

**L NOTE:** Possession of a commercial radio operator license or permit does not authorize an individual to operate amateur radio stations. Only a person holding an amateur radio operator license may operate an amateur radio station.

## **II. TYPES OF LICENSES, PERMITS, AND ENDORSEMENTS**

The FCC currently issues eight types of commercial radio operator licenses and two types of endorsements. Each of these is described below:

### ***RESTRICTED RADIOTELEPHONE OPERATOR PERMIT (RP)***

RP holders are authorized to operate most aircraft and aeronautical ground stations. They can also operate marine radiotelephone stations aboard pleasure craft (other than those carrying more than six passengers for hire on the Great Lakes or bays or tidewaters or in the open sea) when operator licensing is required.

An RP is **NOT** needed to operate the following:

- ! a voluntarily equipped ship or aircraft station (including a CAP station) which operates only on VHF frequencies and does not make foreign voyages or flights.
- ! an aeronautical ground or coast station which operates only on VHF frequencies.
- ! on-board stations.
- ! a marine utility station unless it is taken aboard a vessel which makes a foreign voyage.
- ! a survival craft station when using telephony or an emergency position indicating radiobeacon (EPIRB) station.
- ! a ship radar station, if the operating frequency is determined by a fixed tuned device and the radar is capable of being operated by only external controls.
- ! shore radar, shore radiolocation, maritime support, or shore radio-navigation stations.

### ***MARINE RADIO OPERATOR PERMIT (MP)***

MPs are required to operate radiotelephone stations aboard certain vessels that sail the Great Lakes. They are also required to operate radiotelephone stations aboard vessels of more than 300 gross tons and vessels which carry more than six passengers for hire in the open sea or any tidewater area of the United States. They are also required to operate certain aviation radiotelephone stations and certain coast radiotelephone stations.

### ***GENERAL RADIOTELEPHONE OPERATOR LICENSE (PG)***

A PG is required to adjust, maintain, or internally repair FCC licensed radiotelephone transmitters in the aviation, maritime, and international fixed public radio services. It conveys all of the operating authority of the MP. It is also required to operate the following:

- ! any maritime land radio station or compulsorily equipped ship radiotelephone station operating with more than 1500 watts of peak envelope power.
- ! voluntarily equipped ship and aeronautical (including aircraft) stations with more than 1000 watts of peak envelope power.

### ***GMDSS RADIO OPERATOR'S LICENSE (DO)***

The DO qualifies personnel as Global Maritime Distress and Safety System (GMDSS) radio operators for the purposes of operating GMDSS radio installations including some basic equipment adjustments. It also confers the operating authority of the MP.

### ***GMDSS RADIO MAINTAINER'S LICENSE (DM)***

The DM qualifies personnel as GMDSS radio maintainers to perform at sea repair and maintenance of GMDSS equipment. It also confers the operating authority of the PG and MP.

**L NOTE:** In instances where an applicant qualifies for a DO and a DM, a GMDSS Radio Operator/Maintainer License (DB) will be issued.

### ***THIRD CLASS RADIOTELEGRAPH OPERATOR'S CERTIFICATE (T3)***

The T3 authorizes operation of certain coast radiotelegraph stations. It also confers the operating authority of the MP.

### ***SECOND CLASS RADIOTELEGRAPH OPERATOR'S CERTIFICATE (T2)***

The T2 authorizes the holder to operate, repair, and maintain ship and coast radiotelegraph stations in the maritime services. It also confers all of the operating authority of the T3 and MP.

### ***FIRST CLASS RADIOTELEGRAPH OPERATOR'S CERTIFICATE (T1)***

A T1 is required only for those who serve as the chief radio operator on a U.S. passenger ship. It also conveys all of the operating authority of a T2.

### ***SHIP RADAR ENDORSEMENT***

Only persons whose commercial radio operator license bears this endorsement may repair, maintain, or internally adjust ship radar equipment.

### ***SIX MONTHS SERVICE ENDORSEMENT***

The Six Months Service Endorsement is required on the radiotelegraph operator's certificate of anyone who serves as the sole radio operator aboard large U.S. cargo ships sailing on the high seas.

### ***DISCONTINUED LICENSES AND ENDORSEMENTS***

The following types of license and endorsements are no longer issued:

- ; First Class Radiotelephone Operator License.
- ; Second Class Radiotelephone Operator License.
- ; Third Class Radiotelephone Operator Permit.
- ; Broadcast Endorsement.
- ; Aircraft Radiotelegraph Endorsement. (This endorsement will be dropped from any renewed radiotelegraph certificate.)

### III. QUALIFICATION REQUIREMENTS

#### *Restricted Radiotelephone Operator Permit*

To qualify, you must:

- ! be either a legal resident of (or otherwise eligible for employment in) the United States or hold an aircraft pilot certificate valid in the United States or hold an FCC radio station in your own name; and
- ! be able to speak and hear; and
- ! be able to keep at least a rough written log; and
- ! be familiar with provisions of applicable treaties, laws and rules which govern the radio station you will operate.

If you are a non-resident alien you must hold one of the following three documents to be eligible for an RP:

- ! a valid United States pilot certificate issued by the Federal Aviation Administration; or
- ! a foreign aircraft pilot certificate which is valid in the United States on the basis of reciprocal agreements with foreign governments; or
- ! a valid radio station license issued by the FCC in your own name. (An RP issued on this basis will authorize you to operate your own station only.)

#### *All other licenses/permits*

To qualify, you must:

- ! be a legal resident of (or otherwise eligible for employment in) the United States; and
- ! be able to receive and transmit spoken messages in English; and
- ! pass a written and/or telegraphy examination(s) as described below.

**NOTE:** To obtain a First Class Radiotelegraph Operator's Certificate, you must meet the following additional qualification requirements:

- ! be at least 21 years old; and
- ! have one year of experience in sending and receiving public correspondence by radiotelegraph at a public coast station, a ship station, or both.

#### *Ship Radar Endorsement*

To qualify, you must:

- ! hold (or qualify for) a PG, DM, T1, or T2; and
- ! pass a written examination as described below.

### ***Six Months Service Endorsement***

To qualify, you must document that:

- ! you have been employed as a radio operator on board ships of the United States for a period totaling at least six months; and
- ! the ships were equipped with radio stations complying with the provisions of Part II of Title III of the Communications Act of 1934, as amended, or the ships were owned and operated by the U.S. Government; and
- ! the ships were in service during the applicable six month period; and
- ! you held a T1 or T2 issued by the FCC during this entire six month qualifying period; and
- ! you hold a radio officer's license issued by the U.S. Coast Guard at the time the six months service endorsement is requested.

For those applicants who are qualified by having at least 180 days of creditable service, the following is to be submitted to the Federal Communications Commission, 1270 Fairfield Road, Gettysburg, PA 17325-7245:

- ! a certification letter signed by the vessel's master or owner/agent specifying the vessel name, vessel call sign, dates of shipment and discharge, total number of days (minus any portion of single in port period exceeding seven days) served, and the names(s) and certificate number of the chief radio officer holding a six months endorsement on the vessel during shipment; and
- ! a completed FCC Form 756; and
- ! an original or copy of the T1 or T2 Certificate; and
- ! a valid copy of U.S. Coast Guard license; and
- ! certificate(s) of Discharge to Merchant Seaman; and
- ! two photographs, as described below.

## **IV. TERM OF LICENSE**

The following licenses are issued for the holder's lifetime:

- ! Restricted Radiotelephone Operator Permit
- ! General Radiotelephone Operator Permit

The following licenses are issued for a 5 year term:

- ! Marine Radio Operator Permit
- ! GMDSS Radio Operator's License
- ! GMDSS Radio Maintainer's License
- ! Third Class Radiotelegraph Operator's Certificate
- ! Second Class Radiotelegraph Operator's Certificate
- ! First Class Radiotelegraph Operator's Certificate

These licenses may be renewed from anytime in the last year of their term up to five years following expiration without having to re-take an examination. After the five year grace period expires, applicants must retake the requisite written and/or telegraphy examination(s). An expired certificate is not valid for any radio operations.

## V. HOW TO OBTAIN A COMMERCIAL RADIO OPERATOR LICENSE

### *Restricted Radiotelephone Operators Permit*

Submit a completed FCC Form 753 or FCC Form 755 as indicated below:

- ! *FCC Form 753*: Use this form if you are legally eligible for employment in the United States. A temporary permit for immediate operating authority is included on the form.
- ! *FCC Form 755*: Use this form if you are not legally eligible for employment in the United States (non-resident alien, foreign aircraft pilot, etc.). A temporary permit for immediate operating authority is included on the form.

### *All other Licenses and Permits*

Submit FCC Form 756 along with the appropriate Proof of Passing Certificate(s) for the requisite written and/or telegraphy examination element(s) to apply for any commercial operator license or endorsement requiring a written and/or telegraphy examination. Also use this form to renew your license, to apply for an endorsement, or to replace a lost, stolen, or mutilated license.

## Λ *PHOTOGRAPHS REQUIRED FOR RADIOTELEGRAPH LICENSES AND SIX MONTHS SERVICE ENDORSEMENT*

Applicants for radiotelegraph operator's certificates and six months service endorsements must submit **TWO** identical, passport type photographs taken within the last six months. Photographs must be:

- ! signed by the applicant on the front along the left side. Signature must be clearly visible and not mar the facial features in the photographs, and must match the signature on the application; and
- ! not less than 2 x 2 inches nor more than 2.5 x 3 inches; and
- ! clear, full face (head and shoulders only).

Photographs are acceptable in black and white or color with a light, plain background. Newspaper, magazine, or photocopied photographs are not acceptable. Enclose photographs in a plain white envelope, labeled on the outside with the word "PHOTOS" and your name. Staple the envelope to



the back of your application.

### ***Examinations***

- Λ To obtain an FCC Commercial Operator License, applicants must submit, to the Commission, proof of passing written and/or telegraphy Elements as illustrated in the following table.

<i>TYPE OF LICENSE</i>	<i>WRITTEN ELEMENTS</i>							<i>TELEGRAPHY ELEMENTS</i>			
	1	3	5	6	7	8	9	1	2	3	4
First Class Radiotelegraph Operator's Certificate	<b>U</b>		<b>U</b>	<b>U</b>						<b>U</b>	<b>U</b>
Second Class Radiotelegraph Operator's Certificate	<b>U</b>		<b>U</b>	<b>U</b>				<b>U</b>	<b>U</b>		
Third Class Radiotelegraph Operator's Certificate	<b>U</b>		<b>U</b>					<b>U</b>	<b>U</b>		
General Radiotelephone Operator License	<b>U</b>	<b>U</b>									
Marine Radio Operator's Permit	<b>U</b>										
GMDSS Radio Operator's License	<b>U</b>				<b>U</b>						
GMDSS Radio Maintainers License	<b>U</b>	<b>U</b>					<b>U</b>				
Ship Radar Endorsement						<b>U</b>					

### ***WRITTEN EXAMINATION ELEMENTS***

- ! Element 1 - Basic radio law and operating practice with which every maritime radio operator should be familiar. To pass, an examinee must correctly answer at least 18 out of 24 questions.
  
- ! Element 3 - General Radiotelephone. Electronic fundamentals and techniques required to adjust, repair, and maintain radio transmitters and receivers. The exam consists of questions from the following categories: operating procedures, radio wave propagation, radio practice, electrical principles, circuit components, practical circuits, signals and emissions, and antennas and feed lines. To pass, an examinee must correctly answer at least 57 out of 76 questions.
  
- ! Element 5 - Radiotelegraph Operating Procedure. Radio operating procedures and practices generally followed or required in communicating by means of radiotelegraph stations. To pass, an examinee must correctly answer at least 38 out of 50 questions.

- ! Element 6 - Advanced Radiotelegraph. Technical, legal, and other matters applicable to the operation of all classes of radiotelegraph stations. To pass, an examinee must correctly answer at least 75 out of 100 questions.
- ! Element 7 - GMDSS Radio Operating Practices. GMDSS radio operating procedures and practices sufficient to show detailed practical knowledge of the operation of all GMDSS sub-systems and equipment. The exam consists of questions from the following categories: general information, narrow band direct printing, INMARSAT, NAVTEX, digital selective calling, and survival craft. To pass, an examinee must correctly answer at least 57 out of 76 questions.
- ! Element 8 - Ship Radar Techniques. Specialized theory and practice applicable to the proper installation, servicing, and maintenance of ship radar equipment in general use for marine navigation purposes. To pass, an examinee must correctly answer at least 38 out of 50 questions.
- ! Element 9 - GMDSS Radio Maintenance Practices and Procedures. Requirements set forth in IMO assembly on Training for Radio Personnel (GMDSS), Annex 5 and IMO Assembly on Radio Maintenance Guidelines for the Global Maritime Distress and Safety System related to Sea Areas A3 and A4. The exam consists of questions from the following categories: radio system theory, amplifiers, power sources, troubleshooting, digital theory, and GMDSS equipment and regulations. To pass, an examinee must correctly answer at least 38 out of 50 questions.

### ***TELEGRAPHY EXAMINATION ELEMENTS***

- ! Element 1 - 16 code groups per minute.
- ! Element 2 - 20 code groups per minute.
- ! Element 3 - 20 code groups per minute.
- ! Element 4 - 25 code groups per minute.

Telegraphy exams consist of both transmitting and receiving tests. Examinees must copy by ear and send by hand plain text and code groups in the international Morse code using all the letters of the alphabet, numerals 0-9, period, comma, question mark, slant mark, and prosigns AR, BT, and SK. Examinees must copy and send at the required speeds for one continuous minute without making any errors. Each test lasts approximately five minutes. The failing of any code test automatically terminates the examination.

Code speeds are computed using five letters per word or code group. Punctuation symbols and numbers count as two letters each.

Examinees may use their own typewriter to copy the 25 words-per-minute receiving test, but must copy tests at lower speeds by hand. Likewise, examinees may use their own semi-automatic key to send the 25 word-per-minute sending test, but must send tests at lower speeds using a hand key.

The Commission will grant credit for Telegraphy Elements 1 and 2 to applicants who hold an unexpired (or within the grace period) FCC-issued Amateur Extra Class operator license.

## **VI. TAKING A WRITTEN EXAMINATION**

You must decide for yourself how to prepare for an examination. The marine permit and basic radiotelegraph exams are relatively simple. They may require only a few hours of study. The general radiotelephone, GMDSS operator and maintainer, advanced radiotelegraph, and radar examinations are more difficult and require a knowledge of electronics. Electronics can be studied through engineering and trade schools, correspondence courses, military or employee training programs, or your own efforts.

The question pools, with answers, are available for downloading via the Internet through anonymous FTP at [ftp.fcc.gov](ftp://ftp.fcc.gov) in the "\pub\Bureaus\Wireless\Informal" directory and on the World Wide Web at <http://www.fcc.gov/Bureaus/Wireless/Informal/wp.html>. The question pools can be purchased through the Commission's duplicating contractor, International Transcription Services, Inc., 1231 20th Street, N.W., Washington, DC 20036, telephone (202) 857-3800. All question pools are available for inspection during normal business hours in the Public Safety and Private Wireless Division, Room 4C330, 445 12th Street, S.W., Washington, DC 20554, telephone (202) 418-0680.

There are several commercially prepared study guides that cover FCC examinations. Some are question and answer manuals based on the official question pools. While most of these publications include explanations which are designed to educate, a few emphasize rote memorization of specific questions and answers. Such "memory texts" may give you the impression that you can pass the FCC examinations without learning the subject material. This is not true. The FCC periodically changes exam questions to maintain their integrity. You can maximize your chances of achieving a passing score by mastering the subjects involved.

The FCC does not certify schools or review study materials. Consequently, the FCC will not recommend any particular school or publication. Adequate study materials are available in bookstores and public libraries.

## ***TEST LOCATIONS***

The FCC does not administer commercial operator license examinations. The examination managers listed below are authorized to administer examinations nationwide and, in some cases at foreign sites.

**BFT Training Unlimited, Inc.**, 1318 Redwood Way, Suite 220, Petaluma, CA 94954. All elements are available at regularly scheduled times or by appointment from 150 examiners throughout most of the United States and U.S. Territories, as well as other locations by prior arrangement. Fee: \$25.00 per exam element, with a minimum of \$50.00 per test sitting. Contact: J. David Byrd (800) 821-0906 or (707) 792-5678; FAX: (707) 792-5677; world wide web: >www.elkinstraining.com<; e-mail: >info@elkinstraining.com<.

**Electronic Technicians Association International, Inc.**, 602 North Jackson St., Greencastle, IN 46135. All elements are available at test sites located throughout all states, including some stateside and overseas U.S. military installations (DANTES). Call for schedule information. Examinations are also available by appointment. Fee: \$50.00 - 75.00. Contact: Richard Glass (765) 653-4301 or (765) 653-8262; FAX: (765) 653-8262; world wide web: >www.eta-sda.com<; e-mail: >eta@indy.tdsnet.com<.

**Elkins International, Inc.**, P.O. Box 797666, Dallas, TX 75252. All elements are available at 100 test centers throughout the U.S., American Territories and installations overseas. Fee: \$50.00 for the first element and \$25.00 for each additional element per exam session. Contact: Laura Elkins - (888) 621-8876; FAX: (972) 398-0556; e-mail: >elkins@eitn.com<.

**International Society of Certified Electronics Technicians (ISCET)**, 2708 West Berry St., Fort Worth, TX 76109. All elements are available by appointment from 360 examiners in 47 states, Guam, and selected foreign countries. (Alaska, Vermont, and Wyoming not presently available.) Fee: \$35.00 - 75.00. Contact: Alice Brown - Dept. 19 - (817) 921-9101; FAX: (817) 921-3741; world wide web: >iscet.org<; e-mail: >iscetFW@aol.com<.

### ***EXAMINATION PROCEDURES***

Use of reference materials in FCC examinations is not permitted. Do not bring any books, papers, notes, study guides, or other unauthorized aids to an examination. You may use a non-programmable calculating device during any examination, so long as the memory is erased when the device is turned off.

### ***OPERATING WHILE APPLICATION PENDING***

Provided that a person's commercial radio operator license was not revoked, or suspended, and is not the subject of an ongoing suspension proceeding, a person whose application for a commercial radio operator license has been received by the FCC but which has not yet been acted upon and who holds a Proof of Passing Certificate(s) indicating that he or she passed the necessary examination(s) within the previous 365 days, is authorized to exercise the rights and privileges of the operator license for which the application was received. This authority is valid for a period of 90 days from the date the application was received.

If you file an application to renew your license before it expires, you may continue to operate under the authority of your license while the FCC processes your renewal application. However, if you fail to renew your license before it expires, you cannot operate equipment that requires that license until it is renewed. You may file to renew your expired license any time during the five year grace period after your license expires. If you fail to renew your license within the grace period, you must apply for a new license and re-take the required examination(s).

**L NOTE:** The FCC does not notify you when it is time to renew your license. The expiration date is on your license or permit.

## **VII. ADDITIONAL INFORMATION**

### ***RENEWAL PROCEDURES***

If you need to renew a Marine Radio Operator Permit, a radiotelegraph operator's certificate, a GMDSS operator license, or a GMDSS maintainer license submit your expiring license and completed FCC Forms 159 (Fee Processing Form) and 756. If renewing a radiotelegraph operator's certificate, be sure to enclose two signed photographs, as described above.

All other commercial radio operator licenses are valid for the lifetime of the holder -- they need not be renewed.

### ***LOST, STOLEN, MUTILATED, OR DESTROYED LICENSES***

You may apply for a duplicate license by submitting FCC Forms 159 (Fee Processing Form) and 756 according to the instructions printed on reverse of application or a replacement of a Restricted Permit by submitting FCC Forms 753 or FCC Form 755, whichever is applicable, and an FCC Form 159 (Fee Processing Form); -or-

You may submit a completed FCC Form 159 (Fee Processing Form) and a letter indicating your license/permit was lost, stolen, mutilated, or destroyed. In addition, requests for a duplicate Radiotelegraph certificate must include two signed passport-sized photographs.

**A fee is required with either submission. Current information on the fee amount and filing location can be found in the Wireless Telecommunications Bureau Fee Filing Guide, FCC Form 1070P, or by calling the FCC's Consumer Center toll free at 1-888-CALLFCC (225-5322). The WTB Fee Filing Guide and FCC Form 1070P are available from the WTB internet site at <http://www.fcc.gov/wtb> or from the fax-on-demand system by dialing (202) 418-0177 from the handset of a fax machine.**

### ***NAME CHANGE***

If you change your name, apply for a replacement license in your new legal name. Be sure to indicate the reason for your application and give both your former and new legal names. RP holders should

apply for a new RP.

### ***POSTING LICENSE OR PERMIT***

If you are employed at a station where your operator license must be posted, you may post either your proof of passing certificate or a signed copy of your renewal application instead of your license while your application for license or renewal is being processed.

## **VIII. CONTACTING THE FCC**

- ? Contact the FCC's Forms Distribution Center at 1-800-418-FORM (3676) to obtain an application form. Forms are also available at <http://www.fcc.gov/formpage.html>.
- ? Contact the FCC's Consumer Center at 1-888-CALLFCC (225-5322) for assistance concerning:
  - Obtaining an application form;
  - Filling out an application form;
  - Status of an application;
  - Fees;
  - General questions concerning Commission policies.
- ? Contact the FCC's Public Safety and Private Wireless Division in Washington, DC at (202) 418-0680 or e-mail at [mayday@fcc.gov](mailto:mayday@fcc.gov) if you need help downloading the question pools via the internet.
- Λ Browse the FCC's internet homepage on the World Wide Web for up to date information on test sites, training opportunities, and question pool revisions.

<http://www.fcc.gov/wtb/services.html>